

**Notice of Allowability**

Application No.

09/466,174

Examiner

James A. Menefee

Applicant(s)

KAWANISHI ET AL.

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 1-13-04.
2. ☒ The allowed claim(s) is/are 16,18,19,21,22,24-26,28,29,31,33-35,37-39,41 and 42.
3. ☒ The drawings filed on 17 December 1999 and 21 June 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

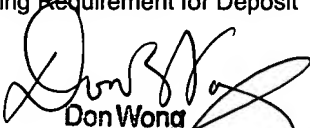
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2802

## **DETAILED ACTION**

### ***Response to Amendment***

In response to the amendment filed 1/13/2004, claims 31 and 33 are amended, and claims 36 and 40 are cancelled. Claims 16, 18-19, 21-22, 24-26, 28-29, 31, 33-35, 37-39, and 41-42 are pending.

### ***Terminal Disclaimer***

The terminal disclaimer filed on 1/13/2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of either US Patent No. 6,597,823, or US Patent No. 6,480,640 has been reviewed and is accepted. The terminal disclaimer has been recorded. As a result, the prior double patenting rejections based on these references have been withdrawn.

### ***Allowable Subject Matter***

Claims 16, 18-19, 21-22, 24-26, 28-29, 31, 33-35, 37-39, and 41-42 are allowed. The following is an examiner's statement of reasons for allowance:

Regarding claim 16, there is not taught or disclosed in the prior art a laser device including a spot sized converter as claimed where a semiconductor laser region and a semiconductor layer are integrally formed as one unit on a substrate so that light emits from the laser through the semiconductor layer, said semiconductor layer having a GRIN refractive index so that the refractive index varies in a layer direction, changing the spot size of light emitting from the semiconductor laser through the semiconductor layer with this varying refractive index.

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Regarding claims 31 and 33, there is not taught or disclosed in the prior art a laser device including a spot sized converter as claimed where a semiconductor laser region and waveguide region are integrally formed as one unit on a substrate, and a semiconductor layer is buried at the interface between these two regions, the semiconductor layer having either a constant refractive index or a refractive index varying continuously in a layer direction or varied step wise.

A number of US Patents disclose these features, however the terminal disclaimers filed during the prosecution of this application have obviated their use as prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (571) 272-1941. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

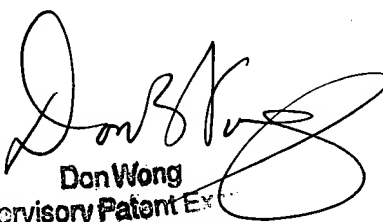
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JM

March 17, 2004



Don Wong  
Supervisory Patent Examiner  
Technology Center